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Journal of the Society of Arts.

FRIDAY, NOVEMBER 11, 1859.

◆

NOTICE TO MEMBERS.

The One Hundred and Sixth Session of the Society will commence on Wednesday next, the 16th inst., when the First Ordinary Meeting will take place. Sir Thomas Phillips, Chairman of the Council, will deliver the opening Address. The Chair will be taken at Eight o'clock on the following Wednesday evenings :—

1859.	November	—	—	16	23	30
„	December	7	14	21	—	—
1860.	January	—	—	18	25	—
„	February............	1	8	15	22	29
„	March................	7	14	21	28	—
„	April	—	11	18	25	—
„	May	2	9	16	23	30
„	June	—	—	—	—	27*

The following are the arrangements for the Meetings previous to Christmas :—

November 16.—Opening Address by Sir Thomas Phillips, F.G.S., Chairman of the Council.

⁂ On this evening the Medals which were awarded by the Council for Papers read at the Weekly Evening Meetings during the last Session, and for articles submitted to the Society's Committees, will be distributed.

November 23.—" On China, and its Relations to British Commerce." By Sir John Bowring, F.R.S.

November 30.—" On the Prevention of Accidents in Coal-Mines." By Mr. P. H. Holland.

December 7.—" On the Forces used in Agriculture." By Mr. J. C. Morton.

December 14 —" On the Great Eastern." By Mr. William Hawes.

December 21.—" On Starches ; the purposes for which they are employed, and the improvements in their manufacture." By Mr. F. Crace Calvert, F.R.S.

THE LATE ROBERT STEPHENSON.

The following notice has been contributed by a Member of the Society :—

He was born on the 16th of November, 1803, and died, full of labours, on the 12th of October, 1859.

Why has his death more stirred the public mind than that of any man of modern times—not of the military or governing classes ? Surely a life of incessant industry in works of utility, united to an instinctive geniality of nature, has brought forth this universal wail for his loss.

What is engineering ? What but a wide knowledge of the materials of nature, and a faculty, as universal, of converting them to artifical uses, having reference to the progress of man physically, and, consequently, mentally also.

Utility, then, is the basis of engineering, and nothing that pertains to utility is unworthy the notice of the engineer, whether making shoes or building bridges. All are means of transit.

The term engineer possibly has some reference to the Latin *ingens*, great, distinguishing the larger operators from the smaller, as the maker of a steam-engine from the maker of a watch, though the same faculties frequently comprehend both, as in the case of Watt. There is one great distinction in the works of the engineer, those which are motionless or stationary, and those intended for movement; and there can be no doubt that he who comprehends the latter will be better fitted for the operations of the former. Other things being equal, the mechanical engineer will find it an easier thing to become a civil engineer than the civil engineer will find it to become a mechanical engineer. The civil engineer is not of necessity obliged to calculate his materials to a nicety, because stationary structures have only to rest. The mechanical engineer must nicely balance and proportion every part of his machines.

Neither the one nor the other are artists, *i.e.*, they do not construct objects for the mere pleasure of looking at them. Their first consideration is utility, and all that is ornamental must grow out of, and be based on the utility.

But there is more than mere utility. The world is full of useful things. Beyond this, there is the originality to foresee human wants, and to create new useful things. This is a very different thing from the morbid imagination which seeks merely to make new things, or to vary the forms of old things without regard to utility. In engineering, the *cui bono?* must be rigidly demanded. A philosophical toy is not the object sought for by a commercial people. The value of the aqueduct of Alcantara is not in the height of the tall piers which please the eye, but in the stream of water that runs above them, supported by them. If a cheaper pipe below ground will convey the water at less cost, he is the best engineer who takes to the pipe in preference.

But the engineer must be born to deal with more than mere matter. Huge displacements and alterations of material must be executed by human hands, and human hands are but a prolongation of human hearts governed by human emotions. The same high qualities that govern an army of soldiers—not savages—are also needed to govern an army of navvies and the officers who marshal them. The general who would be successful must acquire the love and devotion of his people, or his plans may fail in execution. Nor will it do to *pretend* to regard the welfare of his people. His regard must be in him an instinct of humanity, the out-growth of a large nature.

Let us examine Robert Stephenson by the light of these tests.

He was almost born in the coal pit, but became a proficient at school in mathematics and chemistry, took suit and service under Nicholas Wood, as a coal miner, and then went to North America as a mining engineer. Returning thence by way of the United States, he became a builder of locomotives at Newcastle, and coupling all this with several records of his name in the patent list, there can be little doubt that he was a competent, practical mechanic, master of those arts that are at the base of all civil engineering.

The London and Birmingham proper bears testimony to his capacity as a civil engineer, embracing many kinds of railway work, the first of a series of lines leading from London to Berwick. The world is now so familiar with railways, that what the originators had to go through, mentally and physically, in what were then new features—new when compared with the weights to be borne along the line—is almost forgotten. Kilsby tunnels could now be made more easily and cheaply than that which set the type ; and so also the iron roof at Euston, the original, we believe, of all, was then regarded as a marvel. Had Robert Stephenson now to make the London and Birmingham, with all the aggregated knowledge gained in the making of it, there is, possibly, no part of it that he would not alter in concurrence with progress. His father made the gauge, and quite in accordance with utility as then understood, in proportion to population and traffic, amidst all the thwartings of the great impediment makers in high and low places, and that gauge once set up it was impossible to alter it by anything short of commercial convulsion. The gauge of India is a proof of what Robert Stephenson would have made the English gauge if he had but to begin anew. But the Liverpool and Manchester had stamped the gauge for all its connections before he came upon the field. To go through the history of what he did as a maker of railways is simply to recapitulate what all the world knows. Some two thousand miles of line, representing millions of capital, testify to the faith that capitalists and inventors had in him, in England, Belgium, Italy, Switzerland, Canada, Norway, and Egypt.

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* **The Annual General Meeting: the Chair will be taken at 4 o'clock. No Visitors are admitted to this Meeting.**

In making railways, at the outset the desire was to obtain as nearly as possible a dead level, and in the then existing state of knowledge it was right. The powers of the locomotive were in embryo, and there were no means of knowing how far it was desirable to consume daily coal in preference to daily interest on capital. It is quite certain that, as capital becomes abundant and population thickens, many of the bad gradients on our present lines will be improved, because risk to life from inclines will not be tolerated, a risk which is always great when inclines are passed over by frequent trains.

That Robert Stephenson was an efficient engineer there can be no doubt, so far as the construction of works went, and, upon the whole, his works were cheaply executed, considering the increase of value given to all materials by the great demand consequent on the nine and ten per cent. revenues of the Liverpool and Manchester, the Grand Junction, and the London and Birmingham.

In the construction of bridges, it does not appear that he sought after any object but utility. In one sense, the Britannia-bridge over the Menai Straits was not his work. It was forced on him by the Admiralty. A clear height of one hundred feet above high water was demanded, and no pier permitted save on the natural rock in mid stream, leaving spans of upwards of 400 feet. This was the problem set him to solve by the Admiralty out of his own brains in the best manner he could.

An arch was out of the question; the level below and the level above forbade it. The Menai-bridge of Telford gave no hope for a locomotive, and so Robert Stephenson bethought him of the strength of an iron ship he once saw bestriding the crest of a wave off Newcastle, without breaking her back, and then his imagination took the form of a hollow tube, with a train rolling through it. Mr. Hodgkinson and Mr. Fairbairn were then set to work to experiment on this idea. A round tube was made, and crushed, and then, without further trial, a square tube was resorted to. That also was crushed, but means were resorted to of strengthening it with cells at the top and bottom, till the requisite resistance was attained. Had the round tube been strengthened in a similar mode, a similar result would have been obtained, as Mr. Fairbairn professes to have lately discovered in the application of flanges externally to circular boilers. Thus, with no previous knowledge of any such structure of bridges, but only by process of observation and analogy, Robert Stephenson solved for the Admiralty their problem, at an enforced cost to the shareholders, but not of his seeking.

Here was a work, novel in construction and of then monster proportions, successfully planned and successfully executed. After this it was comparatively easy to make similar bridges. How it was executed is well told in a pictorial tale, largely published as an engraving, where the chief is surrounded by his people all working in harmony, and there is a gracious smile of approval on his face while examining the plans for the proposed lifting of the tube, with explanation ofdetails by the resident engineer; and grouped around are various members of his profession, watching all the details that were to confer a new knowledge on the world in the process of lifting weights, that cast into the shade all that had ever been done before in the ancient or modern world, whether in pyramid or pillared temple. No sign of mutiny or of dissatisfaction was there seen; all worked with a will and energy that only affection could have called into action.

As regards the engineering judgment of Robert Stephenson, there were three important questions on which he gave decided opinions. One was the question of the gauge—the broad or the narrow. He adhered to the latter in various reasons set forth in the blue books, containing minutes of evidence before the legislature. We may fairly take the utilitarian test of dividends as the verdict of the public on this point.

Another question was the proposed substitution of the traction by the atmospheric tube as an improvement on the locomotive engine. Robert Stephenson battled for the locomotive—his father's heir-loom—with all his might and main. He failed to convince men's minds at the time, so plausible was the atmospheric system; but the soundness of his judgment was proven by the utter failure of the scheme in more places than one under different engineers. The only fragment left of the system is the mile-and-a-quarter on the Dalkey incline of the Dublin and Kingston, where it first originated—a mechanical toy, of no value in itself, but merely an attraction to bring travellers on to the other portions of the line—a scheme about on a par with the Montagnes Russes, which excited the wonder of all Paris in the year 1818.

The question of the cutting a canal through the Isthmus of Suez, set on foot by M. Lesseps, was formally negatived by Robert Stephenson. He had once entertained the idea himself, founding his calculations upon a survey made by the elder Napoleon, but so soon as the survey was verified, it was found, like many other public documents of the period, to be based upon an untruth. The Red Sea had not, as then proved, a higher level than the Mediterranean, and Robert Stephenson, after expending his own money, was especially careful not to encourage any delusion tending to waste the money of public companies. Had the Red Sea really been of the higher level reported by the French savant, it is tolerably clear that it would long since have opened a passage for itself through the sandy border, and made its own canal through the low level intervening between it and the Mediterranean.

We have lost a great man ere he had attained the specified span of life. We have many men whose individual knowledge of details in the various arts he practised as combining to form the great engineer, may be greater than his was; but we have no greatly *prominent* man, who, at this time, adds to a wide knowledge of physics in the practical arts, the geniality of nature and sound judgment that link men together for works of high emprise, together with the moral worth that ever obtained implicit confidence from the shareholders whose capital was placed at his disposal. Large were his dealings with men, many were those who worked for him; but there are none whose tongues speak of him save with respect and affection. His name will ever remain amongst us as one of those who have raised England to her condition of eminence, and whose memory we may recollect with pride. The skill and enterprise of the old Norsemen in the daring deeds of war have taken the shape of deeds as daring in the work of civilisation, in which phase Robert Stephenson ranks as a hero, lofty as any of the elder Vikings in their vocation—immeasurably higher in that progress which is ever winning the world from the wilderness.

MEETINGS FOR THE ENSUING WEEK.

MON. ......Royal Geographical (Burlington House), 8½. 1. Captain McClintock, R.N., "Discoveries by the late Expedition in search of Sir John Franklin and Party, &c.," 2. Mr. Francis Galton, "Sun-Signals for the use of Travellers (Hand-Heliostat)."

Medical, 8½. Dr. Habershon, "On Pain as a Symptom of Disease of the Stomach."

TUES.......Civil Engineers, 8. Mr. C. E. Amos, "Description of the Government Water-works, Trafalgar-square."

Statistical, 8. 1. Sir F. H. Goldsmid, Bart., "On the Recent Statistics of Prussia." 2. M. Wilhelm Lazarus, "On German Railways."

WED. ......Society of Arts, 8. Sir Thomas Phillips, Chairman of Council, "Address on the Opening of the 106th Session."

Geological, 8. 1. Sir R. I. Murchison, "Supplemental Remarks on the Geology of the North-West Highlands." 2. Mr T. W. Atkinson, "On some Fragments of Copper Ornaments found in Auriferous Sand in Eastern Siberia." 3. Rev. J. E. Woods, "On the Geology of a part of South Australia."

THURS.......Linnæan, 8. 1. M. Carnel, "On a New Kind of Butter-Tree from W. Africa." 2. Mr. Oliver, "On New S. American *Utriculariæ*, from Prof. Jameson and Mr. Spruce." 3. Dr. Seemann, "Memoir on the Family of *Crescentiaceæ*."

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, November 4th*, 1859.]

Dated 31*st August*, 1859.

1982. G. S. Fleming, 498, New Oxford-street—Imp. in candles for the purpose of indicating time, and the facility of lighting the same.

Dated 26*th September*, 1859.

2178. G. Addenbrooke, Greenhill Wimbourn, Wolverhampton—Imp. in raising and lowering boats and other vessels from one water level to another, applicable in inland navigation.

Dated 28*th September*, 1859.

2198. E. T. Simpson, Walton, near Wakefield, Yorkshire—Imp. in apparatus for condensing distilled fatty matters.

Dated 6*th October*, 1859.

2274. E. O'Connell, Bury, Lancashire—Imp. in apparatus for supplying liquid nourishment to infants, invalids, and others, and for warming or heating the same.

Dated 7*th October*, 1859.

2288. J. Dixon, Newcastle-upon-Tyne—Imp. in apparatus for supplying water to water-closets.

Dated 10*th October*, 1859.

2302. G. Davies, 1, Serle-street, Lincoln's-inn—Imp. in the manufacture of paper pasteboard and cardboard. (A com.)

Dated 13*th October*, 1859.

2332. A. Holden, North-end, near Stalybridge, and J. Holden, Micklehurst, Chester—Imp. in machinery used in washing, dyeing, sizing, and drying yarn and thread.
2334. W. Prosser, 24, Dorset-place, Dorset-square, Middlesex—Imp. in apparatus employed in the production of light.
2336. W. Burgess, Newgate-street—Imp. in reaping and mowing machines.

Dated 14*th October*, 1859.

2339. C. Collins, Lower-road, Islington—Imp. in the manufacture of grease for lubricating the axles of railway and other carriages, the journals of machinery, and for other like purposes. (A com.)
2342. J. P. Henderson, Summerford-house, Stirling, N.B.—Imp. in stopcocks or valves.
2343. G. Price, Wolverhampton, Staffordshire—Imp. in locks.
2344. J. Varley, Radcliffe, Lancashire, and J. Crowther, Bradford, Yorkshire—Imp. in steam engines and boilers.
2346. G. Goldsmith, Leicester—Imp. in gas meters.
2348. H. W. C. Wise, Titchfield, Hampshire—An improved domestic apparatus for making tea, coffee, and other such like beverages.

Dated 15*th October*, 1859.

2350. H. Chapman, Battlebarrow, Appleby, Westmoreland—An improved self-acting safety railway break.
2352. J. Fernihough, Dukinfield, Chester—Imp. in the construction of steam boilers and apparatus connected therewith.
2354. J. H. Johnson, 47, Lincoln's-inn-fields—Imp. in machinery or apparatus for breaking stones. (A com.)
2358. N. Montanari, Charles-street, Soho-square, Middlesex—An improved apparatus for aiding children in learning to walk.
2360. J. Elder, Glasgow—Imp. in steam and other engines.

Dated 17*th October*, 1859.

2362. W. K. Hall, 36, Cannon-street, London—Imp. in apparatus for manufacturing cotton wadding. (A com.)
2364. S. Newberry and H. Moore, Burnley, Lancashire—Certain imp. in looms for weaving.
2366. W. E. Newton, 66, Chancery-lane—Imp. in rotary steam-engines. (A com.)
2368. W. Norton, Hollybank, Cavan—Imp. in kilns for drying grain.
2370. J. Thom and A. Kennedy, Glasgow—Imp. in looms for weaving.
2372. R. A. Brooman, 166, Fleet-street—Imp. in electro-magnetic engines, and in apparatus connected therewith. (A com.)
2374. W. Tillie, Londonderry—Imp. in sewing machines.

Dated 18*th October*, 1859.

2378. A. W. Williamson, University College—Imp. in obtaining extracts from poppies.
2380. J. Higgins and T. S. Whitworth, Salford—Imp. in machinery or apparatus for preparing and spinning cotton and other fibrous materials.
2382. W. E. Newton, 66, Chancery-lane—Imp. in machinery used for preparing for spinning silk, wool, or other fibrous substances. (A com.)
2384. H. Hirsch, Berlin, Prussia—A new propeller for ships.

Dated 19*th October*, 1859.

2386. J. H. Banks, Radnor street, Manchester—Imp. in machinery for boring, cutting, moulding, and carving wood, stone, and other materials.
2392. C. Seton, Edinburgh—Imp. applicable to the wheels of carriages generally for the purpose of reducing the draught thereof.
2394. G. Hart, 6, Chapel-street West, Mayfair, Middlesex—Imp. in the manufacture of hats.
2396. J. Bruckshaw, Longslow, H Bruckshaw, Hinstock, and W. S. Underhill, Newport, Salop—Imp. in machinery for elevating grain or other similar substances.

Dated 20*th October*, 1859.

2400. E. T. Hughes, 123, Chancery lane—Imp. in machinery or apparatus for compressing and making caps for cartridges. (A com.)
2401. R. A. Brooman, 166, Fleet street—A cryptographic machine or apparatus for carrying on secret correspondence. (A com.)
2402. P. A. Godefroy, King's Mead-cottages, New North-road, Islington—Imp. in the construction of submarine cables.
2403. F. Nivelle, Paris—Imp. in sewing machines.
2404. J. Hodgson, Liverpool—Imp. in building ships and vessels.
2405. C. Hanson, Tottenham Court-road, Middlesex—Imp. in fire-arms and ordnance.

Dated 21*st October*, 1859.

2406. J. Musgrave, Globe Iron Works, Bolton-le-Moors, Lancashire—Certain imp. in steam boilers.
2407. J. H. Green, Christiansberg, U.S.—A composition for coating metals and other substances for various purposes.
2408. J. T. Pitman, 67, Gracechurch street—An improved mode of converting cast iron into soft malleable iron without change of form. (A com.)
2410. G. T. Bousfield, Loughborough-park, Brixton, Surrey—Imp. in apparatus for steering vessels. (A com.)
2411. T. S. Prideaux, Willow-house, Hampstead—Imp. in the construction of ships and rafts.
2412. W. Maltby, De Crespigny-park, Camberwell, Surrey—Imp. in refining oil.

Dated 22*nd October*, 1859.

2414. P. Jones, Manchester—Imp. in machinery or apparatus for suspending, carrying, and laying down paper, woven fabrics, paper-hangings, and all kinds of flexible materials during and after the process of drying, and also for giving a continuous positive motion to the suspending rods or spindles.
2415. G. B. Mill, Toronto, Canada West—Imp. in pressure regulating apparatus for gas burners.
2416. W. Fox, Amiens, France, and J. Willis, Little Britain, London—Imp. in the manufacture of umbrellas and parasols, part of which improvements is applicable to other purposes.
2417. R. A. Brooman, 166, Fleet-street—A method of preparing inoxidizable oils and fats to be employed as lubricating substances. (A com.)
2418. W. Brookes, 73, Chancery-lane—Imp. in machinery or apparatus for preparing wool and other fibrous materials. (A com.)
2419. S. Beardmore, 27, Albion-street, Hyde-park—Imp. in electric telegraphs.
2420. W. Thorold, Norwich—Imp. in apparatus applied to locomotive engines for condensing steam.
2421. J. Dahlke, Providence-row, Finsbury—Imp. in the preparation of charcoal, and its application to the purification of water and the preservation of organic matters, and in apparatus connected therewith.
2422. F. Wrightson, Birmingham—Imp. in purifying coal gas, and in utilizing compounds obtained in purifying coal gas.
2423. F. N. Clerk and C. Thomas, Birmingham—Imp. in cleavers or choppers.

Dated 24*th October*, 1859.

2424. A. L. Dowie, Glasgow—Imp. in gas burners, and in pressure regulating apparatus for the same.
2425. G. Holden, Preston, Lancashire—Imp. in machinery for spinning cotton and other fibrous substances.
2427. A. C. Bertrand, Paris—Imp. in the manufacture of herbal cigarrettes.
2428. R. A. Brooman, 166, Fleet-street—Imp. in daylight and other reflectors, and in the mode of supporting lamp reflectors. (A com.)
2429. M. Fitzpatrick, 29, Boulevart St. Martin, Paris—Apparatus to be applied to the prevention of accidents on railways, called "parachoc."
2430. R. Seager, Peter-street, Ipswich—Imp. in compounds of india-rubber and gutta-percha.
2431. W. E. Newton, 66, Chancery lane—Imp. in the construction of ships or vessels. (A com.)
2432. W. E. Newton, 66, Chancery-lane—Imp. in paddle wheels. (A com.)

Dated 25th October, 1859.

[illegible]. H. S. Rosser, 17, Upper Philimore-gardens, Kensington—Imp. in electric telegraph cables, and in the mode of obtaining signals.

2437. W. A. Matthews, Sheffield—Imp. in springs.

2439. E. Ellis, St. Ann's Wells-road, Nottingham—Imp. in the manufacture of lace, and in apparatus employed therein.

2441. E. S. Tebbutt, Leicester—An improved manufacture of elastic fabrics.

Dated 26th November, 1859.

2443. W. Clark, 53, Chancery-lane—Imp. in the preparation and application of baths or bathing media, and in apparatus employed therein. (A com)

2445. J. Z. Kay, Dundee, N.B.—Imp. in gas meters, and in apparatus for maintaining or preserving the levels of liquids.

2447. J. H. Paterson, Glasgow—Imp. in shirting cloths and in shirts.

2451. C. E. Wilson and H. G. Hacker, Monkwell-street, London—Imp. in machinery for the manufacture of chenille.

2453. T. Whitby, Millbank-street, and W. Dempsey, Great George-street, Westminster—Imp. in ordnance and fire-arms.

Dated 27th October, 1859.

2455. C. Stevens, 1B, Welbeck-street, Cavendish square—A machine for scouring and polishing floors and decks of ships. (A com.)

2457. E. H. Rascol, 4, Brydges-street, Covent-garden—A new implement for cleansing of the plates, dishes, and other table or kitchen utensils. (A com.)

2459. R. M. Ordish, 18, Great George-street, Westminster—Imp. in railway fastenings.

2461. R. A. Brooman, 166, Fleet-street—Imp. in the preparation of red colouring matters or dyes. (A com.)

2463. H. Cowan, Boileau-lodge, Barnes, Surrey—An imp. in waistcoats, and certain other articles of wearing apparel.

WEEKLY LIST OF PATENTS SEALED.

[*From Gazette, November 4th*, 1859.]

November 4th.

1039. H. C. Hurry.
1122. H. Turner.
1131. H. Reynolds.
1132. R. A. Brooman.
1137. W. Kellingley.
1138. F. Angerstein, R. Clegg, and G. Thorrington.
1142. T. Jones.
1154. W. E. Gedge.
1156. W. Jeffery.
1163. A. Morton.
1164. E. T. Hughes.
1165. T. Green, jun.
1169. W. Wilkinson and C. Whitley.
1170. M. Defries.
1171. J. Norman.
1172. R. Thomson.
1173. G. Bell.
1182. H. Clarke.
1187. J. Leadbetter & J. Rhodes.
1190. J. Saxby.
1191. R. A. Brooman.
1205. J. T. Beale and T. N. Kirkham.
1213. J. Chatterton.
1229. R. Romaine.
1247. J. H. Johnson.
1259. E. Pasquier.
1288. D. S. Price.
1331. O. Maggs.
1358. W. H. Parkes and W. Bagnall.
1361. J. Wilson.
1390. R. Barclay.
1407. M. J. Haines.
1501. C. Clarini.
1748. A. Sidebottom.
1759. J. Wright.
1972. G. Collier.
1990. E. Ellis.
2081. H. G. Collins.
2131. P. Fairbairn.

[*From Gazette, November 8th*, 1859.]

November 8th.

1196. T. Scott.
1200. R. Gourlay.
1207. J. M. Munro.
1208. M. Leahy.
1296. J. Howard.
1306. J. Draper.
1374. R. Chrimes.
1569. N. Ardaseer.
1640. W. MacKean.
1645. H. Davies.
1915. W. A. Vérel.
2080. J. Mason.
2089. W. E. Newton.
2109. W. E. Newton.
2111. H. Jackson.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[*From Gazette, November 4th*, 1859.]

October 31st.

2576. S. Tearne and G. W. Richmond.

November 1st.

2577. J. Nasmyth and R. Wilson.
2605. W. Seed and W. **Ryder.**

November 2nd.

2585. H. Bessemer.

[*From Gazette, November 8th*, 1859.]

November 3rd.

2824. C. W. Siemens.

November 4th.

2593. W. Weild.
2596. C. Titterton.
2617. R. A. Brooman.
2831. J. Latimer Clark.

November 5th.

2625. L. J. V. Vuitton.

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

[*From Gazette, November 4th*, 1859.]

October 31st.

683. J. J. Ziegler.

November 1st.

590. W. Petrie.

November 2nd.

624. E. Lord.

[*From Gazette, November 8th*, 1859.]

November 3rd.

649. A. L. Knox.
650. J. Wotherspoon.

November 4th.

656. Admiral the Earl of Dundonald.

LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Proprietors' Name.	Address.
4,206	Oct. 20th.	Connectors for connecting Bags to the Dash-boards of Vehicles	William Hewitt	Birmingham.
4,207	„ 21st.	Travelling Bag	Samuel Last........................	256, Oxford-street, W.
4,208	„ 28th.	A Daniell's Battery	John Muirhead	Gloucester-road, Regent's-park, N.W.

LIST OF PRESENTS.

The following presents have been made to the Society during the past year. The thanks of the Society have been forwarded to the donors.

PRESENTS.	DONORS.
Specifications of Patents up to the present time, and Indexes	Commissioners of Patents.
Abridgments of ditto	,,
Commissioners of Patents Journal	,,
Journal of the Geological Society, Vol. xv., parts 1, 2, 3, and 4......	Society.
Journal of the Proceedings of the Linnæan Society, Vol. iii., Vol. iv., Nos. 13 and 14	,,
The Geologist for 1858, Vol. i. ...	S. J. Mackie, Esq.
London Sewage; shall it be Wasted, or Economised, by Chas. F. O. Glassford	The Author.
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